REMARKS

Claim 1 has been amended to state clearly that at least one type of recording media is transported at different speeds in the image forming section and on the return path. In the embodiments, this is the normal type of media that is transported at speed V1 in the image forming unit and at speed V2 on the return path (V2 > V1) .

As noted in lines 29-32 on page 11, the speed V3 at which thick recording media are transported on the return path may be lower than the image forming transport speed V1, if this is necessary to enable thick media to negotiate tight curves on the return path (page 12, line 16). This statement provides support for the new claims 19 and 20.

Claims 1 and 8-17 were rejected over Hino '906 in view of Johdai '083. This rejection is respectfully traversed.

As the Examiner notes, Hino teaches generally that the paper-transport speed can be changed according to the type of paper (sentence bridging columns 8 and 9) , but this teaching is in relation to the image forming transport speed of the belt (5) that carries the recording media through the image forming unit. The Examiner admits that Hino does not clearly teach setting different transport speeds on the return path. In fact, Hino does not say anything about transport speed on the return path (circulation path 9).

Sheet Transport Speed. According to the Examiner, Johdai teaches setting different transport speeds for the refeeding path or the return path (40) as shown in Figs. 33-35d. However, with respect, these figures fail to disclose anything about transport *speed* on the return path; instead, they are concerned with other aspects of sheet motion.

Fig. 33 mentions a "Refeeding state," but this is state is one of "stand-by, starting and stopping" determined according to a "state counter" (col. 23, line 49). Fig. 34, which is an

expanded view of Refeeding state box 200 in Fig. 33 (see col. 23, lines 56-58 and col. 3, line 30), shows that the "state" comprises flags, set to either 0 or 1. For example, a refeeding state counter is set to "1" when a sheet presence flag is "1," showing that sheets are present in the intermediate storage section (col. 23, lines 60-66). Other flags are set according to other conditions, such as whether the print switch signal is on-edge (col. 24, line 1).

As the various flags are checked, the "refeeding state counter" is incremented (col. 24, line 5) or reset to zero (col. 24, line 15). There is no disclosure whatsoever relating the *speed* of the sheets being refed.

Applied Figs. 35a-35d relate to control of refeeding clutches (col. 24, lines 21-23), and therefore relate to starting and stopping of the refeeding, rather than to the speed of the refeeding. For example, Johdai discloses at col. 24, line 45, "when the sheet transport permission signal [a flag, see line 42] has been set to "1", an interval timer is set at step S243 .... The interval timer determines the timing for refeeding a sheet." The Examiner is invited to note that sheet refeed timing relates to the instant of starting to refeed a sheet, and is unrelated to the speed of the sheet. At col. 25, line 1, Johdai explains that, under the disclosed control system of flags, "the refeeding roller 161 [is] driven to rotate" but the speed of the rotation is not mentioned.

While Figs. 35a-35d describe refeeding clutch control, this is a type of on-off control that determines whether the refeeding roller 161 and separation roller 163 are driven (whether their clutches are on or off) . Nothing is said about the speed at which the refeeding and separation rollers are driven, or even how they are driven. Apparently they are driven by the main motor M3 that drives the transport system (Fig. 19) as a whole.

Thus, while the applied controller 300 discloses refeeding modes, these modes only relate to whether the refeeding operation is being performed or not, and do not relate to the *speed* of refeeding. The assertion of the Examiner at page 2, 6th line from the bottom, is respectfully traversed as being unsupported by any specific citation to even any mention of sheet speed.

The Examiner is invited to note that cols. 15-16, which discuss the mechanical arrangement of the refeeder, never mention the rotational speed of the refeeding roller 161 (or any other roller, for that matter). The speeds are fixed, and Johdai is concerned only with the timing of clutch activation in the passages applied by the rejection.

The References Teach Against the Claims. Johdai does discuss refeed sheet speed, in portions not applied in the rejection, but in those portions it teaches against the instant claims. At col. 17, line 46, Johdai states that "the sheet transporting speed of the storing/refeeding unit 40 ... should be adjusted to the system operation speed of the copying machine, [so] a conversion calculation is performed for synchronizing the control timing in the storing/refeeding unit 40 with the sheet transporting speed." The following paragraph (lines 53-63) explains that this means that the sheet speed is fixed, e.g., at 100 mm/sec, and the sheet transporting speed is set accordingly, in units of mm/count of the timer. Thus, this passage only explains how the refeeding speed is synchronized to the "system" speed, i.e., the speed in the rest of the machine—including the image forming feed.

The passage at col. 18, lines 6-13 states that "copying machines differ in operation speed and the sheet transporting speed of the storing/refeeding unit 40 ... should be adjusted to the system operation speed of the copying machine [by] synchronizing the control timing in the storing/refeeding unit 40 with the sheet transporting speed." This passage teaches away from the present invention by teaching that the sheet transporting speed is a predetermined quantity and that the speed on the return path should be controlled according to machine conditions, not according to the type of recording media.

The Claims are Not Reached. Accordingly, neither Hino nor Johdai teaches the subject matter of amended claim 1, in which the control unit selects different return transport speeds for different types of recording media, and for at least one type of media, the return transport speed

differs from the image forming transport speed. Therefore, no combination of the references (not admitted obvious) could reach the present invention.

Motivation. Furthermore, the rejection's asserted motivation for combining the references, namely "to improve the efficiency of transporting ... media" (bottom of page 2), is respectfully submitted to be too general and therefore vague to have provided an actual motivation; to be unrelated to the features at issue (speed and efficiency are not related in any way by the references); to be unsupported in the references themselves; and to be unsupported by any reasoned argument based on the general knowledge of the art.

There is no true motivation asserted for claims 9, 16, and 17, but instead, combination is asserted based on "routine experimentation" (page 3, line 3). With respect, neither reference teaches any need for experimentation and neither teaches that there is any shortcoming in the constant speed disclosed. The person of ordinary skill does only what is suggested, and if the references present a fixed speed as acceptable that person will not experiment.

Claims 2-7 were rejected over Hino in view of Johdai and Kato '962. This rejection is respectfully traversed.

The asserted motivation for adding Kato to the combination, namely "optimum print quality," is vague and is completely unrelated to the features at issue. The alternative motivation, "routine experimentation [for] more precise control [of] the feeding," is traversed as not being an actual motivation and being unrelated to the teachings of the references, which are not concerned with precision of the feed control.

Allowed Claim 18. The Allowance of claim 18 is noted with appreciation. Claim 18 is not amended at this time, pending the Examiner's consideration of the arguments above.

New Claims. As to new claim 19, neither Hino nor Johdai teaches the subject matter of the new independent claim 19, which is that even for the same recording medium, the transport speed should be changed on different parts of the transport path according to the radius of curvature of the transport path. Neither is the subject matter of new dependent claim 20 disclosed by either reference.

Allowance is requested.

Respectfully submitted,

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Nick Bromer (Reg. No. 33,478)
(717) 426-1664
RABIN & BERDO, P.C.
CUSTOMER NO. 23995
Telephone: (202) 371-8976
Telefax : (202) 408-0924